

The third alternative embodiment allows the base console to be reduced in the lengthwise dimension. Therefore, the communication terminal 1 can be made more compact and convenient to carry, while still maintaining the functional characteristics of a conventional cell phone when the video display terminal 3 is in the first position.

FIGS. 15–16 illustrate a fourth alternative embodiment of the communication terminal 1. Here, the base console 4 is again very compact. Unlike the third alternative embodiment, the video display console 3 and camera console 2 are not integrated into the telescoping linkages 16A, 16B. Instead, by virtue of the lower hinges 17, the video display console 3 and camera console 2 can be made to overlay the telescoping linkages 16A, 16B.

When placing the video display 3 into the first position, the telescoping linkages 16A, 16B would slide into guide tracks 54, and the video display console 3 and camera console 2 would slide into a protected track 55. Again, projections 23 would be provided on the telescoping links 30, and would be captured and slidable within the guide tracks 54. Also, the protected track 55 could be lined with soft material to insulate and protect the video display console 3 and camera console 2 during storage.

A hinged face cover 56 could be provided to protect the keypad 10 and speaker 9. As illustrated in FIG. 16, once the video display 3 is in the first position, and the hinged face cover 56 is closed, the communication terminal 1 is extremely compact, drop tolerant, and highly protected from dust and moisture of the environment.

FIGS. 17–19 illustrate a fifth alternative embodiment of the communication terminal 1. Here, the face of the base console 4 could resemble the face of base console 4 of the second alternative embodiment, illustrated in FIG. 11. The base console 4 would not have the opening 49 for receiving the video display console 3 in its first position. Instead, the back face of the base console 4 includes alignment features for receiving the video display console 3 and camera console 2 in an overlaying relationship. A plate-like telescoping linkage 57 would also be received into the alignment features of the back face to overlay the base console 4.

FIGS. 18 and 19 are a side view and a back view, respectively, of the fifth alternative embodiment with the video display console 3 in its second position, remote from the base console 4. The alignment features include first recessed guide slots 58 formed in the sides of the back face of the base console 4. The plate-like telescoping linkage 57 includes a first plate 59 having first followers 60 for riding within the first guide slots 58. Ends of the first guide slots 58 include first stops 61 to prevent the first followers 60 from leaving the first guide slots 58. Also, the first plate 59 includes second guide slots 62 formed in side surfaces thereof.

The plate-like telescoping linkage 57 also includes a second plate 63. The second plate 63 includes second followers 64 for riding within the second guide slots 62. Ends of the second guide slots 62 include second stops 65 to prevent the second followers 64 from leaving the second guide slots 62. The second plate 63 includes a first piano hinge 66 and third guide slots 67 formed in side surfaces thereof.

The plate-like telescoping linkage 57 also includes a third plate 68. The third plate 68 includes third followers 69 for riding within the third guide slots 67. Ends of the third guide slots 67 include third stops 70 to prevent the third followers 69 from leaving the third guide slots 67. The third plate 68 includes a second piano hinge 71 and has the video display console 3 attached to the remote end thereof.

The video display console 3 includes a fourth follower 72 adapted to engage within one of the first guide slots 58 formed in the back face of the base console 4. The camera console 2 is attached to the video display console 3 by the guide rod 11 and spring 14 (discussed in relation to FIG. 3, above). The camera console 2 includes a fifth follower 73 adapted to engage within the other of the first guide slots 58 formed in the back face of the base console 4. By the fifth embodiment, the video display console 3 and the camera console 2 will be secured to, and overlay, the base console 4, when the video features of the communication terminal 1 are not being utilized.

FIGS. 20 and 21 illustrate a sixth alternative embodiment of the communication terminal 1. The sixth alternative embodiment combines features of the fifth and third alternative embodiments. The base console 4 includes the first guide slots 58, however the video display console 3 and camera console 2 are integrated into a modified telescoping linkage 73, which includes a first extent 75 and a second extent 76. The video display console 3 includes a guide track 74 for receiving portions of the modified telescoping linkage 73.

When the video display console 3 is in the first position, the second extent 76 of the modified telescoping linkage 73 slides into the first extent 75, and the combination slides into the guide track 74 within the video display console 3. A cavity 77 may also be provided in the base console 4 to accommodate a portion of the modified telescoping linkage 73, when the video display console 3 is in the first position.

Each embodiment described above yields, a portable, wireless communication terminal, which can be physically expanded and reconfigured so that the video and audio features of the communication terminal will be easily accessible to the user. The interconnections between the consoles allow a great deal of flexibility in the operation of the communication terminal. The communication terminal is rugged in design and can withstand rough environments and dropping. After operation, the communication terminal can be retracted into a compact configuration, which is suitable for carrying or storage.

Having described many alternative embodiments of the present invention, it should be noted that variations and substitutions can be made among the many features of the embodiments. For example, the plate-like linkage of FIG. 19 could be substituted for the rod-like linkages of FIG. 5, or the LCD display 50 of FIG. 11 could be included on the small, base consoles of FIGS. 14, 15 and 20. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

What is claimed is:

1. A portable wireless communication terminal comprising:
  - a camera console;
  - a camera mounted in said camera console;
  - a video display console;
  - a video display mounted in said video display console; and
  - a base console, wherein said camera console, video display console, and base console are interconnected and said camera console is movable relative to said video display console; and
  - a guide extendable between said camera console and said video display console, said guide being centered about